

SUSTAINED RELEASE PHARMACEUTICAL FORMULATION FOR INHALATION

Abstract of the Disclosure

Pharmaceutical formulations and methods are provided for the sustained delivery of a pharmaceutical agent to the lungs of a patient by inhalation. The formulation includes porous microparticles which comprise a pharmaceutical agent and a matrix material, wherein upon inhalation of the formulation a therapeutically or prophylactically effective amount of the pharmaceutical agent is released from the microparticles in the lungs for at least 2 hours. Preferably, a majority of the pharmaceutical agent is released from the microparticles by 24 hours following inhalation, for example where a majority of the pharmaceutical agent is released no earlier than about 2 hours and no later than about 24 hours following inhalation. Methods for delivering a pharmaceutical agent, such as a corticosteroid, to the lungs of a patient are also provided. For example, the method includes having the patient inhale a dry powder blend comprising the present microparticles and a pharmaceutically acceptable bulking agent.